

Notice of Allowability

Application No.

10/629,421

Examiner

Sanza L. McClendon

Applicant(s)

MAIER ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 7/29/03.
2. ☒ The allowed claim(s) is/are 1-13.
3. ☒ The drawings filed on 29 July 2003 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date 10/15/2003
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-13, drawn to a process of providing a rubber composition, classified in class 522, subclass 4.
 - II. Claims 14-17, drawn to a rubber composition, classified in class 524, subclass 492.
 - III. Claims 18-20, drawn to a tire, classified in class 152, subclass 450.
2. Inventions I and II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case, the rubber composition can be made by a materially different method, for example one in which energy was provided in a form different than microwave or radio frequency. Also, a generic rubber composition can be formed without any high frequency energy. It is emphasized that the claims directed to a rubber composition are in the form of a product-by-process claim, wherein the patentability of said rubber composition does not depend on its method of production (absent a showing of unobviousness between claimed product and prior art).
3. Inventions I and III are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case, the tire can be made by a materially different method, for example one in which energy was provided in a form different than microwave or radio frequency. Also, a generic

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tire article can be formed without any high frequency energy. It is emphasized that the claims directed to a tire are in the form of a product-by-process claim, wherein the patentability of said tire does not depend on its method of production (absent a showing of unobviousness between claimed product and prior art).

4. Inventions II and III are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). Here, the combination (Invention III) recites particular characteristics of the subcombination (Invention II) but there is evidence that the particular characteristics of the subcombination are not essential to the combination. Characteristics of the article (fact that the article being formed is a tire) can be used as a basis for showing that the rubber composition does not constitute the sole distinguishing novelty in the combination (purported novelty resides not only in the rubber composition but also in the use of said rubber composition in a specific environment (tires)). It is clearly evident that the rubber composition is not restricted to the manufacture of tires- for example; such a composition can be used in the manufacture of a wide variety of elastomeric articles, including hoses and endless belts.

5. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

6. Claims 8 and 11 are generic to a plurality of disclosed patentably distinct species comprising radio frequency (A), microwave frequency (B), a first combination of radio and microwave frequency (C), and a second combination of radio and microwave frequency (D). Applicant is required under 35 U.S.C. 121 to elect a single disclosed species, even though this requirement is traversed.

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the

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evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

7. Claims 9, 10, and 12 are generic to a plurality of disclosed patentably distinct species comprising a tread (I), a carcass topping rubber (II), or a sidewall (III). Applicant is required under 35 U.S.C. 121 to elect a single disclosed species, even though this requirement is traversed.

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

8. During a telephone conversation with Henry Young on May 2, 2005 a provisional election was made with traverse to prosecute the invention of a method of making/providing a rubber composition, wherein said rubber composition is formed by providing radio frequency (A) and the specific tire component is the tread (I), claims 1-13. Affirmation of this election must be made by applicant in replying to this Office action. Claims 14-20 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

EXAMINER'S AMENDMENT

9. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Henry Young, Jr. on May 26, 2005.

The application has been amended as follows:

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Please cancel claims 14-20 without prejudice.

Allowable Subject Matter

10. Claims 1-13 are allowed.

11. The following is an examiner's statement of reasons for allowance: The specific limitation to the radio frequency in the range from about 0.5 to about 100 MHz or microwave frequency in the range from about 900 to 930 MHz or 2300 to about 2600 MHz to internally preheat an unvulcanized, silica-rich diene rubber composition as found in the claims to a temperature of at least 40 °C to a maximum of about 90 °C appears to distinguish the instant process over the prior art. The closest prior art of record teaches use of microwave and radio frequencies in rubber compositions. For instance 3,965,055 to Shichman et al teaches using microwave energy with a frequency range of 10^9 to 10^{10} cycles/second (10,000 to 100,000 MHz) to preheat a rubber composition to a temperature of about 40 °C before curing; however the rubber composition fails to be a silica reinforced composition (silica-rich) and the frequency range is too high. 5,854,351 to Maier et al teaches rubber compositions comprising trans 1,4-polybutadiene and a processing oil, wherein said composition is internally preheated to a temperature of at least 40 °C using electromagnetic radiation having a frequency in a range of 2 to 80 MHz. Maier et al teaches heating the trans 1,4-polybutadiene to the specified temperature to enable the polymer to be better processable, i.e. without gelation. Additionally Maier et al teaches said polybutadiene processed in this way can be blended with other rubbers/elastomers. However, Maier et al fails to specifically teach processing a silica-rich rubber composition comprising at least one other polymer or elastomer having the claimed T_g or T_m in the manner as specifically found in the instant claims. The prior art as a whole fails to explicitly teach and/or fairly suggest a composition as claimed with the claimed properties and heating to an internal temperature as specified in the claims with radio and/or microwaves having the claimed frequencies. Additionally, while the prior art teaches similar silica rich compositions as found in the claims, the prior art fails to

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fairly suggest internally preheating the *composition* to a temperature as suggested in the claims. Therefore, the invention appears to be distinguished over the prior art.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sanza L. McClendon whose telephone number is (571) 272-1074. The examiner can normally be reached on Monday through Friday 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on (571) 272-1078. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Sanza L. McClendon

Examiner

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